

Serial No. 10/765,309

Examiner: M. Stahl

Title: OPTICAL ELEMENT, OPTICAL CIRCUIT PROVIDED WITH THE OPTICAL ELEMENT, AND METHOD FOR PRODUCING THE OPTICAL ELEMENT

Page 9 of 11

REMARKS/ARGUMENTS

Reconsideration is requested in view of the following remarks. Claims 1 and 22 have been editorially revised. Support for the claim revisions is found on page 6, lines 35-36 and page 14, lines 20-24, among other places. Claims 19 and 24 were editorially revised to correct minor typographical errors. Claims 1-25 remain pending in the application.

Objection to the Specification

The specification is objected to because “frame” should be changed to “flame” at page 5, line 21 and at page 15, line 29. The specification has been editorially revised in accord therewith. This objection is therefore overcome.

Claim Objections

Claim 24 is objected to because “frame” should be changed to “flame”. Claim 24 has been editorially revised in accord therewith. This objection is therefore overcome.

Claim Rejections – 35 USC §102

Claims 1-5, 7-8, 10-14 and 22-25 are rejected under 35 U.S.C. §102(b) as anticipated by Fournier et al. (US 5,210,801). Applicants respectfully traverse this rejection.

Claims 1 and 22 recite an aspect ratio of the concave portion is set to be 2 or more, the aspect ratio being a depth/width ratio of the concave portion, and the concave portion is devoid of the covering layer. Fournier et al. discloses that the height h of the trench (concave portion) and its width w satisfy a relationship: $h/w \geq 0.5$ (See col. 8, lines 42-43 and col. 11, lines 45-68). The covering layer disclosed by Fournier et al. however is incorporated in the trench. Thus, the invention of Fournier et al. only teaches a height h that is inclusive of the covering layer.

In contradistinction, the present invention of claims 1 and 22 recite a depth/width ratio that does not include the covering layer. For at least these reasons, claims 1 and 22 are patentable over Fournier et al. Claims 2-5, 7-8 and 10-14 are also patentable since

Serial No.: 10/765,309

Examiner: M. Stahl

Title: OPTICAL ELEMENT, OPTICAL CIRCUIT PROVIDED WITH THE OPTICAL ELEMENT, AND METHOD FOR PRODUCING THE OPTICAL ELEMENT

Page 10 of 11

these claims depend ultimately from claim 1 that is allowable. Claims 23-25 are patentable since they depend ultimately from claim 22 that is allowable.

Claim Rejections – 35 USC §103

Claims 6 and 9 are rejected under 35 U.S.C. §103(a) as unpatentable over Fournier et al. in view of knowledge possessed by one skilled in the art. Applicants respectfully traverse this rejection for the reasons discussed herein above regarding claims 1 and 22. Claims 6 and 9 are patentable over Fournier et al. since they depend ultimately from claim 1 that is allowable. Applicants do not concede the correctness of the rejection.

Claims 1, 4, 5 and 14-25 are rejected under 35 U.S.C. §103(a) as unpatentable over Morgan et al. (Photonics Technology Letters article cited in August 16, 2004 information disclosure statement) in view of Fournier et al. Applicants respectfully traverse this rejection. Morgan et al. does not remedy the deficiencies of Fournier et al. discussed above regarding the rejection of claims 1 and 22.

Morgan et al. discloses an optical element formed only by groove processing. Morgan et al. neither describes nor suggests the aspect ratio of a groove, and the formation of a hollow portion by covering the groove with a covering layer as recited in claims 1 and 22. For at least these reasons claims 1 and 22 are patentable over the cited art, alone or in combination. Claims 4, 5 and 14-21 are also patentable since they depend ultimately from claim 1 that is allowable. Claims 23-25 are patentable since they depend ultimately from claim 22 that is allowable.

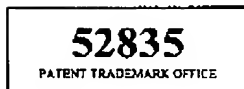
Serial No.: 10/765,309

Examiner: M. Stahl

Title: OPTICAL ELEMENT, OPTICAL CIRCUIT PROVIDED WITH THE OPTICAL ELEMENT, AND METHOD FOR PRODUCING THE OPTICAL ELEMENT

Page 11 of 11

Favorable reconsideration in the form of a Notice of Allowance is requested. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone Applicants' primary attorney-of-record, Douglas P. Mueller (Reg. No. 30,300), at (612) 455-3804.

Dated: Aug 9, 2006

Respectfully submitted,

HAMRE, SCHUMANN, MUELLER &
LARSON, P.C.
P.O. Box 2902
Minneapolis, MN 55402-0902
(612) 455-3800

By: 

Douglas P. Mueller
Reg. No. 30,300
DPM/dnh